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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/553,382

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EXAMINER

ZHENG, LOIS L

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,382	<b>Applicant(s)</b> SCHNEIDER ET AL.	
	<b>Examiner</b> LOIS ZHENG	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 35-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 1-34 are canceled in view of applicant's amendment filed 7 August 2008. New claims 35-57 are added in view of applicant's amendment. Therefore, claims 35-57 are currently under examination.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meagher et al. US 2002/0096229(Meagher).

Meagher teaches a process for treating metal surfaces with an aqueous acidic zinc phosphate coating solution (abstract, paragraph [0036]) comprising:

- 0.75-5% of phosphate (paragraph [0022])
- 0.05-2% of Zn (paragraph [0024-25])
- 0.005 – 0.5% of manganese (paragraph [0029])
- Ca and Mg are present from hard water source(paragraph [0035]), but preferably, no more than 0.5% each(paragraph [0045])
- Nitroguanidine (paragraph [0033])
- 0.3-4ppt of chlorate and/or 0.005-0.15ppt of hydrogen peroxide (paragraph [0033])

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- 0.25-15ppt, or preferably 0.25-4ppt of complex fluoride such as  $\text{HBF}_4$  (paragraph [0039-0041])
- 0.05-5ppt of free fluoride (paragraph [0041])
- 0.05-15ppt of total fluoride (paragraph [0042])
- Free acid ranges from 0.3-10 and total acid ranges from 13-50 (paragraph [0037])

Regarding claim 56, the phosphate, zinc, manganese, Ca/Mg, chlorate/hydrogen peroxide, complex/simple/total fluoride concentrations in the coating solution of Meagher read on the claimed concentrations. The ratio of free acid to total acid calculated from the free acid and total acid ranges as taught by Meagher encompasses the claimed FA/TA ratio. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed FA/TA ratio range from the disclosed range of Meagher would have been obvious to one skilled in the art since Meagher teaches the same utilities in its' disclosed FA/TA ratio range.

In addition, even though Meagher does not explicitly teach the claimed amount of nitroguanidine in the coating solution, one of ordinary skill in the art would have found it obvious to have varied the concentration of nitroguanidine via routine optimization in order to achieve the desired coating formation rate since Meagher teaches nitroguanidine as an accelerator for speeding up the coating formation(paragraph [0033]).

Furthermore, instant claim uses semi-open transitional phrase "consisting essentially of" which includes the presence of other components in the coating solution

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that do not materially affect the characteristics of the claimed invention. See MPEP 2111.03. In this case if applicant contends that additional materials in the coating solution of Meagher are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional components in the coating solution of Meagher would materially change the characteristics of applicant's invention. In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also Ex parte Hoffman, 12 USPQ2d 1061, 1063-64 (Bd. Pat. App. & Inter. 1989).

4. Claims 35-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meagher et al. US 2002/0096229(Meagher), and further in view of Ishii et al. US 6,231,688 B1(Ishii).

The teachings of Meagher are discussed in paragraph 3 above. However, Meagher does not explicitly teach the subsequent cold working step as claimed.

Ishii teaches a zinc phosphate conversion coating solution that produces a zinc phosphate conversion coating with improved adhesion and uniformity(col. 1 lines 11-20). Ishii further teaches that zinc phosphate conversion coating can be applied to metal substrate improve lubrication during cold working(col. 1 lines 22-28).

Regarding claim 35, one of ordinary skill in the art would have found it obvious to have applied cold working to the zinc phosphated metal of Meagher with expected success since Ishii teaches that zinc phosphate conversion coating can be applied to metal substrate improve lubrication during cold working. The remaining claim limitations are rejected for the same reasons as set forth in the rejection of claim 56 above.

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Regarding claim 36, Meagher further teaches adding 0.001-1.7% of nitrate to the coating solution(paragraph [0033]), which overlaps the claimed nitrate amount.

Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed nitrate concentration range from the disclosed range of Meagher in view of Ishii would have been obvious to one skilled in the art since Meagher in view of Ishii teach the same utilities in their disclosed nitrate concentration range.

Regarding claim 37, Meagher further teaches adding 0.01-0.2ppt of nitrite to the coating solution(paragraph [0033]).

Regarding claims 38-39, the ratio of total fluoride to magnesium and the ratio of total fluoride to calcium calculated from the coating solution of Meagher encompass the claimed total fluoride/Mg and total fluoride/Ca ratios. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed total fluoride/Mg and total fluoride/Ca ratio ranges from the disclosed ranges of Meagher in view of Ishii would have been obvious to one skilled in the art since Meagher in view of Ishii teach the same utilities in their disclosed total fluoride/Mg and total fluoride/Ca ratio ranges.

Regarding claim 40, Meagher further teaches adding 0.01-0.2% of nickel to the coating solution(paragraph [0029]).

Regarding claims 41-42, since the instant claims include zero amounts of chloride and sulfate ions, the coating solution of Meagher, although does not specifically include chloride or sulfate ions, still meets the limitations of the instant claims.

Regarding claims 43-45, Meagher teaches the claimed  $\text{BF}_4$  in an amount that either reads on or significantly overlaps the claimed  $\text{BF}_4$  concentration ranges.

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Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed  $\text{BF}_4$  concentration range from the disclosed range of Meagher in view of Ishii would have been obvious to one skilled in the art since Meagher in view of Ishii teach the same utilities in their disclosed  $\text{BF}_4$  concentration range.

Regarding claim 46, Meagher teaches that its coating solution is acidic (paragraph [0036]), which encompasses the claimed pH range of 0.1-4. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed pH range from the disclosed range of Meagher in view of Ishii would have been obvious to one skilled in the art since Meagher in view of Ishii teach the same utilities in their disclosed pH range.

Regarding claims 47-49, Meagher further teaches that its coating process produces a phosphate coating having a layer weight of  $1.6\text{-}10\text{g/m}^2$  (paragraph [0055]). In addition, Examples of Meagher shows that the phosphate crystals in the coating of Meagher is measured less than 20 or even less than 10 microns (Table 6). Furthermore, since coating layer thickness depends on duration of the coating treatment (i.e. the longer the coating treatment duration, the thicker the coating layer) and the level of corrosion protection desired (i.e. the thicker the coating layer, the better/longer the corrosion protection), one of ordinary skill in the art would have found it obvious to have varied the coating layer thickness by varying the coating treatment time via routine optimization in order to achieve the desired level of corrosion protection.

Regarding claim 50, Ishii further teaches applying a lubricant to the zinc phosphate conversion coated surface to improve the lubricating properties of the

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conversion film to support cold working(col. 9 lines 35-38). Therefore, it would have been obvious to one of ordinary skill in the art to have incorporated the application of an additional lubricant layer as taught by Ishii to the conversion coated surface of Meagher in view of Ishii in order to improve the lubricating properties to support cold working as taught by Ishii.

Regarding claim 51, the rejection of F/TA ratio is set forth in the rejection of claim 1 above. In addition, Meagher further teaches that the coating solution should not contain large amount of free fluoride since large amount of free fluoride promotes etching of the substrate(paragraph [0040]), Therefore, deriving from this particular teaching from Meagher, the examiner concludes that the coating solution of Meagher does not excessively etches the substrate and the inherent ratio of the pickling erosion on the metal surface to the layer weight is less than 75% as claimed.

Regarding claim 52-53, the instantly claimed coating composition and coated/cold worked metal object do not distinguish from the coating composition and the coated/cold worked metal object as taught by Meagher in view of Ishii for the same reasons as set forth in the rejection of claims 35-36 and 56 above.

Regarding claim 54, the instant claim is rejected for the same reasons as set forth in the rejection of claims 35 and 56 above.

5. Claims 55 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii.

The teachings of Ishii are discussed in paragraph 4 above.



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Ishii further teaches a process for treating metal surfaces with an aqueous acidic zinc phosphate coating solution (abstract, col. 7 lines 28-31) comprising:

- 5-30g/l of phosphate (col. 7 lines 17-19)
- 0.5-15g/l of Zn (col. 6 lines 48-53)
- 100-3000ppm of supplementary metal ions such as manganese, magnesium and calcium(col. 8 lines 33-42)
- 50-1500ppm of organo-peroxide (col. 8 lines 1-9)
- Free and complex fluoride (col. 8 lines 52-61), wherein examples of Ishii uses 100ppm of fluoride ions(col. 12 line 56)
- pH of 2.0-4.0(col. 7 lines 28-31)

Regarding claims 55 and 57, even though Ishii teaches that accelerator such as nitroguanine cannot not be formulated as a concentrate and provides poor control for the divalent iron ions in the conversion coating solution(col. 2 lines 21-27), Ishii's teaching implies that nitroguanine is an accelerator that can be used in a diluted working conversion coating solution that does not contain iron ions(i.e. such as conversion coating solution that applies to aluminum surfaces). Therefore, one of ordinary skill in the art would have found it obvious to have incorporated nitroguanine into the coating solution of Ishii applied to non-ferrous metal substrate with expected success. In addition, one of ordinary skill in the art would have varied the concentration of nitroguanine in the coating solution of Ishii via routine optimization in order to properly accelerate the coating process to desired coating speed.

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In addition, other component concentration ranges as taught by Ishii overlap the claimed component concentrations. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed component concentration ranges from the ranges disclosed in Ishii would have been obvious to one of ordinary skill in the art since Ishii teach the same utilities in its component concentration ranges.

Regarding the claimed FA/TA ratio, since Ishii teaches a zinc phosphate conversion coating solution that is very similar to the claimed conversion coating solution having the same pH as the claimed conversion coating solution, one of ordinary skill in the art would have found the coating solution of Ishii to have very similar FA/TA values as claimed.

Furthermore, since all other components in the coating solution of Ishii are optional components, the examiner concludes that the coating solution of Ishii meets the limitation of the close-ended transitional phrase "consisting of".

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

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be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 35-46, 50-52 and 54-57 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 27-28, 31, 34-37, 39-41 and 46-53 of copending Application No. 10/555,929. Although the conflicting claims are not identical, they are not patentably distinct from each other because copending Application No. 10/555,929 teaches a process, a coating composition and a coated metal object that is substantially the same as claimed due to its significantly similar coating composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claims 35-57 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 41-42, 46-56, 59-60, 62-63, 67-75 of copending Application No. 10/467,850. Although the conflicting claims are not identical, they are not patentably distinct from each other because copending Application No. 10/467,850 teaches a process, a coating composition and a coated metal object that is substantially the same as claimed due to its significantly similar coating composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Response to Arguments***

9. Applicant's arguments filed 7 August 2008 are fully considered. But they are moot in view of the new grounds of rejection.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mayer et al. US 6,379,474 B1 teaches a zinc phosphate coating composition that is very similar to the claimed coating composition.

Wietzoreck et al. WO 01/66826, whose English equivalent is US 7,208,053 B2, teaches a zinc phosphate coating composition that is very similar to the zinc phosphate solution as recited in claims 55 and 57, having a 50-300g/l of phosphate.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LOIS ZHENG whose telephone number is (571)272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/  
Supervisory Patent Examiner, Art  
Unit 1793

LLZ  
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